Chemical Resistant High Pressure Laminate and Compact Laminate

The purpose of this technical bulletin is to outline laminate options for use in environments where there are staining substances and chemicals that may cause damage to the laminate surface.

Laminates resist many household and chemical substances making the product useful not only for household uses but also for use in laboratories, medical facilities and institutions. The suitability of laminate will depend on the nature of the staining agent, it's concentration, the exposure time on the surface and on the temperature. The suitability of laminate for an application can be gauged from the information given in the following table. This guide is by no means complete but does list many common staining substances.

Low risk of damage (L): No visible change. These substances will not affect the surface up to an exposure time of 16 hours. Note that diluents may evaporate thus increasing the concentration of the agent and damage to the surface may occur even if using concentrations at or below those listed in the table. **Medium risk of damage (M):** Slight to marked change of gloss and/or colour after 16 hours exposure. No damage if spills are washed and wiped dry after 10 to 15 minutes. Note that diluents may evaporate thus increasing the concentration of the agent and damage to the surface may occur even if using concentrations at or below those listed in the table. **High risk of damage (H):** Marked change of gloss and/or colour or surface distortion or blistering. Short-term exposure will result in major damage to the laminate surface.

Substance	Lamicolor/Duropal Chemically Resistant High Pressure Laminate	Lamicolor/ Duropal Chemically Resistant Compact Laminate
Acetaldehyde	L	L
Acetic acid 2M	L	L
Acetic acid (Glacial), 99%	M	L
Acetone	L	L
Acid-based metal cleaners	H	M
Alcohol	L	L
Alcoholic beverages	L	L
Alkaline-based cleaning agents diluted to 10% in water	L	L
Amidosulphonic acid descaling agents (< 10% solution)	H	M
Ammonia (10% solution of commercial concentrate)	L	L
Ammonium hydroxide 30% w/w	L	L
Amyl Acetate	L	L
Animal and vegetable fats & oils	L	L
Ball point pen inks	L	L
Black Tea	L	L
Bleaching agents & sanitary cleaners containing sodium hydroxide.	L	L
Boric Acid	L	L
Bromothymol Blue 0.1%	L	L
Calcium Hydroxide	L	L
Calcium Hypochlorite	L	L
Carbol fuschin	M	M
Chlorobenzene	L	L
Chloroform	L	L
Chromic acid 60% w/v	H	L
Citric Acid (10% solution)	L	L

Cleaning solution 23% dodecylbenzene sulfonate, 10% alkyl aryl polyglycol ether, 10% water	L	L
Coffee	L	L
Cola beverages	L	L
Copper sulphate, 10% w/v	L	L
Cresol	L	L
Crystal Violet	L	L
Diethyl ether	L	L
Dimethyl Phthalate	L	L
Dioxane	L	L
EDTA 0.01M	L	L
Ethyl acetate	L	L
Ethyl alcohol (methylated spirits)	L	L
Ethylene glycol	L	L
Formaldehyde 37% w/w	L	L
Formic Acid 10% w/w	M	L
Formic acid 20 % w/w	M	L
Formic acid 85% w/w ~ 15M	M	M
Furfural	L	M
Gentian violet (dye)	M	L
Hair colouring & bleaching agents	M	M
Hand cream	L	L
Hydrochloric acid 3% w/w	H	L
Hydrochloric acid 32% w/w	H	M
Hydrochloric acid based cleaners (</= 3% HCl)	M	L
Hydrofluoric Acid (conc)	H	H
Hydrogen peroxide (3% solution)	L	L
Iodine solution 0.05M (Tincture of Iodine)	H	H
Isopropanol	L	L
Kerosene	L	L
Lacquers and adhesives (except fast-curing materials)	M	M
Laundry marking inks	L	L
Lemonade and fruit drinks	L	L
Lipstick	L	L
Lyes, soap solutions	L	L
Meats and sausages	L	L
Methanol	L	L
Methyene Blue	L	L
Methyl ethyl ketone	L	L
Methyl Orange 0.04%	L	L
Methyl Red	L	L
Milk (all types)	L	L
Mustard	L	L
n -hexane	L	L
Nail polish	L	L
Nail polish remover	L	L
Natural fruit and vegetables juices	L	L
Nitric acid 5 % w/w	H	L
Nitric acid 10 % w/w	H	L
Nitric acid 20% w/w	H	M
Nitric acid 70% w/w	H	H
Perchloric acid, 70% w/w	H	M
Petroleum jelly	L	L
Phenol 85% w/w	L	M
Phenol and chloramine T disinfectants	L	L
Phenolphthalein 1% w/w	L	L

Phosphoric acid 10 % w/w	M	L
Phosphoric acid 85% w/w	M	L
Potassium hydroxide 15% w/v	M	L
Potassium Permanganate 3% w/v	H	H
Povidone iodine (10% iodine)	H	H
Salt (NaCl) solutions	L	L
Shoe polish	L	L
Silver nitrate 10% w/v	H	L
Sodium hydroxide 8% w/v, 2M	L	L
Sodium hydroxide 24% w/v, 6M	M	L
Sodium hydroxide 40 % w/v	M	L
Sodium hydroxide 50% w/w	M	M
Sodium hypochlorite 5%	L	L
Sodium hypochlorite 13%	L	L
Sodium Silicate	L	L
Stain or paint remover based on organic solvents	L	L
Sudan III	L	L
Sulphuric acid 5.5% w/w	M	L
Sulphuric acid 11% w/w	M	L
Sulphuric acid 33% w/w	H	L
Sulphuric acid 77% w/w	H	M
Sulphuric acid 98% w/w	H	H
Tannic Acid	L	L
Tetrahydrofuran	L	L
Toluene	L	L
Toothpaste	L	L
Trichloroethylene	L	L
Unleaded Petrol	L	L
Uric Acid	L	L
Urine	L	L
Vinegar concentrated (30% acetic acid)	L	L
Water	L	L
Water colours	L	L
Wine vinegar	L	L
Xylene	L	L
Yeast suspension in water	L	L
Zinc Chloride	L	L

* Determined in accordance with procedure AS/NZS 2924.2 Part 15 – Resistance to staining, covered exposure at 20°C

Corrosive gases and vapours - note that frequent exposure to acid vapours, bromine, chlorine, nitrous vapours and sulphur dioxide will damage the laminate surface. Do not use these substances near laminate surfaces.

Acids - damage to laminate surfaces with corrosive substances such as acids can have a cumulative effect on the surface of the laminate and spills might not always be apparent when they occur. Lamicolor recommends that customers should always consider the use of Lamicolor Chemical Resistant grade High Pressure Laminate and Compact Laminate for applications where acids are used.

Laminate selection – the information presented is intended as a guide to help in product selection and does not imply a guarantee. Estimated effects have been given for some reagents based on empirical chemical knowledge. Tests may differ by colour. Lamicolor suggests that before purchasing, in situ tests with chemicals most likely to be in contact with the product should be carried

out. Use a few drops of chemical on the surface of a sample and cover with a watch glass or other suitable cover for 16 hours at the application temperature, remove the chemical by washing, dry the surface and observe the appearance of the surface.

Care and safety – in the interest of good care and safety it is good practice to wipe away spills as soon as they occur. Washing with water is the most effective way of removing most substances followed by drying with a soft cloth. For streaks and marks simply wipe away with a damp cloth or use an all purpose cleaner such as Windex spray cleaner or Ajax Spray n Wipe. For stubborn stains rub with methylated spirits or dab the stain with a diluted bleach mixture (1 part bleach to 8 parts water); leave for 3 minutes then wash off with water and dry. Only as a last resort if a stain persists try cleaning with diluted dishwasher detergent using a Nylon brush, rinse with water and rub dry with a soft cloth. Hard rubbing to remove stains may result in a gloss change. Avoid the use of abrasives or abrasive cleaning agents as these will damage the surface.

Important - gloss and deep embossed finishes are not recommended for application in areas where medium and high-risk substances are intended for use.

Laminate Innovations Australia Pty Ltd

5 Supply Court Arundel Qld 4214
sales@lamicolor.com.au

1300 600 009
lamicolor.com.au